

Preliminary Satellite Estimates of Annual Global Gas Flaring Volumes: 1992-2004

C.D. Elvidge¹, K.E. Baugh², B.T. Tuttle², A.T. Howard², P.J. Hayes², E.H. Erwin¹

¹NOAA National Geophysical Data Center, 325 Broadway, Boulder, CO 80305;
303-497-6121, Fax: 303-497-6513; E-mail: chris.elvidge@noaa.gov

²Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, 80309

It has been known since the mid-1970's that large gas flares can be detected in nighttime low light imaging data collected by the U.S. Air Force Defense Meteorological Satellite Program (DMSP). NGDC serves as the long term archive for DMSP data and has recently completed processing of the first global time series of annual cloud-free nighttime lights. NGDC extracted the aggregate brightness of gas flares by country and is developing a calibration for estimating gas flaring per country by year based on national gas flaring estimates for twenty nations provide by the World Bank Group. Nigeria is widely cited as the country having the largest volume of gas flaring. However, the preliminary DMSP results indicate that Russia flares substantially more gas than Nigeria and more than all other countries combined (Figure 1). The DMSP record of global gas flaring indicates that overall flaring has been quite steady over this time period, despite efforts such as the World Bank Global Gas Flaring Reduction Initiative.

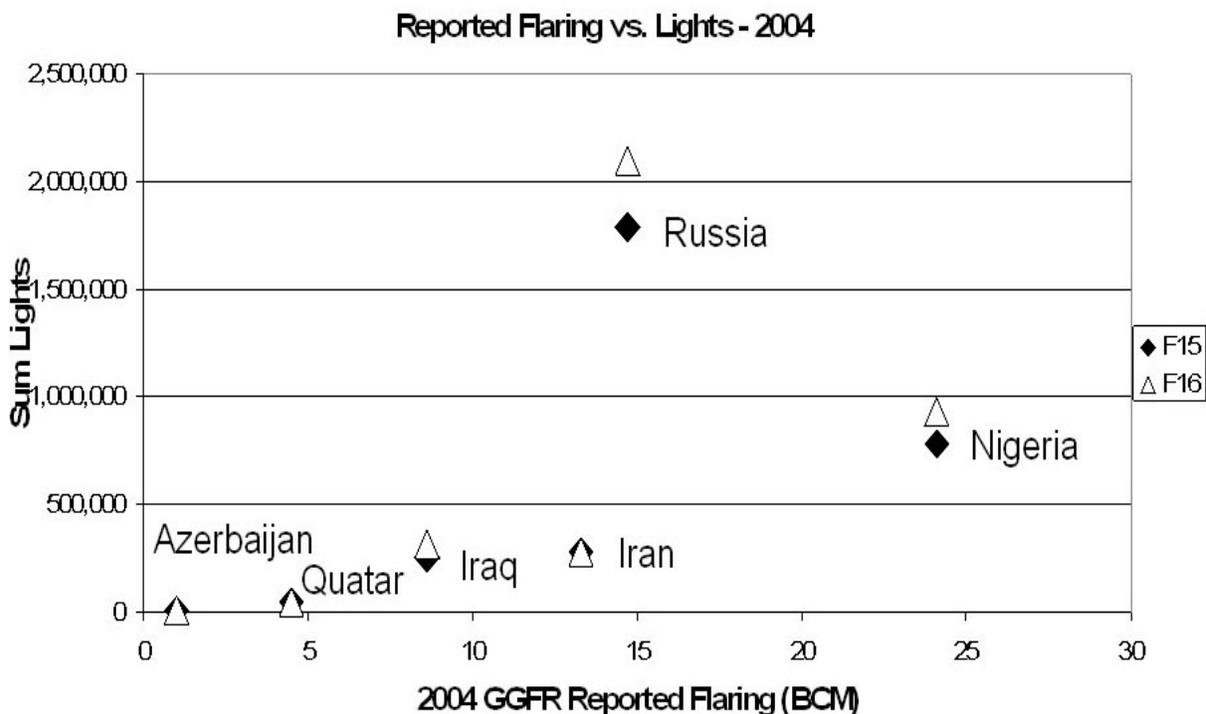


Figure 1. Preliminary results showing World Bank reported gas flaring from six countries for 2004 versus the associated sum of lightning index developed by NGDC. Note that the DMSP data indicate that Russia has substantially more flaring than reported.